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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,849	08/30/2001	Se Jin Hwang	HI-34	6895
34610	7590	05/05/2005	EXAMINER	
FLESHNER & KIM, LLP				CONNOLLY, MARK A
P.O. BOX 221200				ART UNIT
CHANTILLY, VA 20153				PAPER NUMBER
				2115

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/941,849	HWANG, SE JIN
	Examiner Mark Connolly	Art Unit 2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 August 2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-7, 9 and 10 is/are allowed.  
 6) Claim(s) 8-11 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 30 August 2001 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1-11 have been presented for examination.

#### *Specification*

2. The disclosure is objected to because of the following informalities: The SUMMARY OF INVENTION describes a means for saving power in a computer wherein a first time (wait time) and a second time (execution time) for a process are compared. If it is determined that the wait time is greater than the execution time, a clock speed is decreased, and wherein if the wait time is less than the execution time, a clock speed is increased [¶14]. This contradicts the DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS and in FIG 3 where it is described that if it is determined that the wait time is greater than the execution time, a clock speed is increased, and wherein if the wait time is less than the execution time, a clock speed is decreased [¶30-31]. It is believed by the examiner that the description taught in the DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS and in FIG 3 correctly portrays the current invention for minimizing power consumption. Furthermore, since the specification teaches that increasing a clock speed when it is determined that the wait time is greater than the execution time and decreasing the clock speed if the wait time is less than the execution time minimizes power consumption, it is believed that adjusting the clock in an opposite manner would increase power consumption. Currently there is no support in the specification teaching otherwise. Nothing in the current application details how both increasing and decreasing the same clock based on the same conditions, can both lead to power savings. This leads the examiner to believe that the interpretation is proper.

Appropriate correction is required.

***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the decreasing of the clock speed if the first amount of time is greater than the second amount of time and increasing the clock speed if the first amount of time is less than the second amount of time as claimed in claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Art Unit: 2115

4. Claim 11 is objected to because of the following informalities: Claim 11 recites decreasing the clock when a first time is greater than a second time and increasing the clock when the first time is less than the second time. This contradicts the specification and Figure 3 which both teach increasing the clock when a first time is greater than a second time and decreasing the clock when the first time is less than the second time [¶30-31]. The first time is interpreted as a wait time and the second time is interpreted as an execution time. For examination purposes it has been interpreted that the clock is decreased when the first time is greater than the second time and the clock is increased when the first time is less than the second time. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The current invention teaches that the clock speed is increased if the first amount of time is greater than the second amount of time and that the clock speed is decreased if the first amount of time is less than the second amount of time [¶30-31].

For examination purposes, it has been interpreted that “the clock speed is *increased* if the first amount of time is greater than the second amount of time and that the clock speed is *decreased* if the first amount of time is less than the second amount of time.”

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Maitra US Pat No 5623647.

9. Referring to claim 8, Maitra teaches the apparatus comprising:

- a. a CPU adapted to control the overall operation of an embedded system, the CPU being equipped with a PLL for controlling an operating clock of the embedded system and maintaining a clock for a real-time control within the CPU [col. 4 lines 10-21 and col. 5 lines 21-24].
- b. an operating software that is controlled by a controller and including in the form of a process and an operating system (OS); the operating system (OS) having a scheduler adapted to monitor states of all the processes executed on the CPU and to control the clock of the CPU depending on the monitored result of the states of the processes [col. 2 lines 45-47, col. 3 lines 13-16 and col. 4 lines 28-55]. A process state is interpreted either as being executed or waiting to be scheduled for execution.
- c. a memory connected to the CPU and the controller [fig. 5].

***Allowable Subject Matter***

10. Claims 1-7 and 9-10 are allowed.

11. Claim 11 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

***Conclusion***

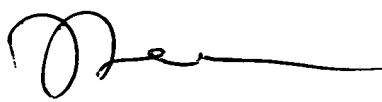
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly  
Examiner  
Art Unit 2115

mc  
April 28, 2005



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